NPDES PERMIT NO. NM0030503
STATEMENT OF BASIS

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

1. APPLICANT

Village of Angel Fire
P.O. Box 610
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2. ISSUING OFFICE

U.S. Environmental Protection Agency
Region 6
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3. PREPARED BY

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4. DATE PREPARED

August 8, 2007

5. PERMIT ACTION

Proposed reissuance of the current National Pollutant Discharge Elimination System (NPDES) permit issued July 23, 2004, with an effective date of September 1, 2004, and an expiration date of July 31, 2007.

Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed in Title 40, Code of Federal Regulations, revised as of June 1, 2007.

6. DISCHARGE LOCATION

As described in the application, the discharger is a publicly owned treatment works (POTW). The site is located at 67 Servises Road, Angel Fire, in Colfax County, New Mexico. The discharge is to Cieneguilla Creek, thence to Eagle Nest Lake, thence to the Cimarron River, thence to the Canadian River in Water Quality Segment number 20.6.4.309 of the Canadian River Basin. The single outfall of the facility is located on Cieneguilla Creek at:

Latitude 36° 24' 17" North, Longitude 105° 17' 00" West

7. RECEIVING STREAM STANDARDS

The general and specific stream standards are provided in "New Mexico State Standards for Interstate and Intrastate Surface Waters," (NM WQS), 20.6.4 NMAC, as amended through December 29, 2006.

The designated uses of the receiving waters are domestic water supply, high quality coldwater aquatic life, secondary contact, irrigation, livestock watering, wildlife habitat, and municipal and industrial water supply.

8. APPLICANT ACTIVITY

Under the Standard Industrial Classification (SIC) Code 4952, the applicant currently operates a domestic wastewater treatment facility. The treatment facility is a sequential batch reactor (SBR) system with ultra-violet (UV) disinfection. The facility has two lagoons that store wastewater prior to discharge either to the receiving stream or to a land application area.

The facility has a design flow capacity of 0.50 million gallons per day (MGD).

9. EFFLUENT CHARACTERISTICS

The facility submitted information in its application that describes the nature of the permitted discharge. The following is a summarization of effluent characteristics.

Parameter	Avg. Monthly (mg/l unless noted)	Max. Daily (or single Data)
Flow, million gallons/day (MGD)	0.10	< 0.50
pH, minimum, standard units (su)	N/A	6.6 su
pH, maximum, standard units (SU)	N/A	8.8 su
Biochemical Oxygen Demand, 5-day ($BOD_{(5)}$)	8.95	N/A
Fecal Coliform (FCB) (bacteria/100 ml)	12.21	N/A
Total Suspended Solids (TSS)	10.84	N/A
Ammonia (as N)	N/A	0.46
Dissolved Oxygen	N/A	2.30

Total Kjeldahl Nitrogen (TKN)	4.33	7.0
Nitrate & Nitrite Nitrogen	3.10	8.0
Oil & Grease	N/A	13.6
Phosphorus	N/A	0.04
Total Dissolved Solids	419.80	488.0

10. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

The proposed effluent limitations for those pollutants proposed to be limited are based on regulations promulgated at 40 CFR 122.44. The draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR 122.44(a), on BPJ in the absence of guidelines, NM WQS and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

a. Reason For Permit Issuance

It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR 122.46(a). The initial permit renewal application was dated February 21, 2007.

b. Operation and Reporting

(1) Regulatory Basis

At a minimum, the facility will be required to treat to the equivalent of "secondary treatment" for domestic sewage, found at 40 CFR 133.102.

(2) Operation and Reporting

The applicant is required to operate the treatment facility at maximum efficiency at all times; to monitor the facility's discharge on a regular basis; and report the results quarterly. The monitoring results will be available to the public.

(3) Sewage Sludge Practices

Sludge produced at the treatment plant is sent to an aerobic digester, then to the sludge filter press. The sludge from the press is hauled to the City of Rio Rancho Sanitary Landfill for final disposal.

(4) Waste Water Pollution Prevention Requirements

The permittee shall institute or continue programs directed towards pollution prevention. The facility shall institute or continue programs to improve the operating efficiency and extend the useful life of the facility.

(5) Industrial Wastewater Contributions

Based on information provided by the applicant, the facility does not receive significant industrial wastewater. EPA has determined that the permittee will not be required to develop a full pretreatment program. However, general pretreatment provisions have been included in the permit.

c. Technology Based Effluent Limitations/Conditions

Regulations promulgated at 40 CFR 122.44(a) require that technology-based effluent limitations be placed in NPDES permits based on effluent limitations guidelines where applicable, on best professional judgment (BPJ) in the absence of guidelines, or on a combination of the two.

Limitations on 5-day biochemical oxygen demand, (BOD_5) and total suspended solids, (TSS), are in accordance with "secondary treatment requirements" established at 40 CFR 133.102 (a) and 133.102 (b).

d. Water Quality Based Limitations

The NM WQCC adopted new WQS for the State of New Mexico. The revised WQS as amended through December 29, 2006, are available on the NMED's website at http://www.nmenv.state.nm.us/swqb/Standards/20.6.4NMAC.pdf. The WQS have been approved by EPA in accordance with Section 303 of the CWA.

Water quality-based effluent limitations are established in the proposed permit for the following pollutants: aluminum loading, TSS loading, E. coli concentration, TRC concentration, and pH range. The 7-day average limit for TSS is based on EPA approved TMDL in 2004.

e. Post Third Round Policy and Strategy

Section 101 of the Clean Water Act (CWA) states that "...it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited..." To insure that the CWA's prohibitions on toxic discharges are met, EPA has issued a "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants (49 FR 9016-9019, 3/9/84)." In support of the national policy, Region 6 adopted the "Policy for Post Third Round NPDES Permitting" and the "Post Third Round NPDES Permit Implementation Strategy" on October 1, 1992, and the EPA Region 6 WET Permitting Strategy on May 1, 2005. The Regional policy and strategies are designed to insure that no source will be allowed to discharge any wastewater which (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical State water quality standard resulting in nonconformance with the provisions of 40 CFR 122.44(d); (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

f. Implementation

The Region is currently implementing its post third round policy in conformance with the Regional strategies. The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits

and the need for additional water quality-based controls.

g. Reasonable Potential

All applicable facilities are required to fill out appropriate sections of the Form 2A, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to Publicly Owned Treatment Works (POTW's), but also to facilities that are similar to POTW's, but which do not meet the regulatory definition of "publicly owned treatment works" (like private domestics, or similar facilities on Federal property). The forms were designed and promulgated to, "make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities," per the summary statement in the preamble to the Rule. These forms became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

The amount of information required for minor facilities was limited to specific sections of these forms, because they are unlikely to discharge toxic pollutants in amounts that would impact state water quality standards. Supporting information for this decision was published as "Evaluation of the Presence of Priority Pollutants in the Discharges of Minor POTW's", June 1996, and was sent to all state NPDES coordinators by EPA Headquarters. In this study, EPA collected and evaluated data on the types and quantities of toxic pollutants discharged by minor POTW's of varying sizes from less than 0.1 MGD to just under 1 MGD. The Study consisted of a query of the EPA Permit Compliance System (PCS) database from 1990 to present, an evaluation of minor POTW data provided by the State agencies, and on-site monitoring for selected toxics at 86 minor facilities across the nation.

Due to the limited information required by the application, the Agency has determined that no reasonable potential exists for this discharge to violate applicable NM WQS for the protection of domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat, municipal and industrial water supply and secondary contact beyond pH, E. coli, aluminum, and the use of chlorine for disinfection or clean purpose.

h. Final Effluent Limitations

Technology-based effluent limitations are established in the proposed permit for the following pollutants; BOD_5, and TSS. The 7-day average effluent loading limits for TSS and dissolved aluminum based on the Total Maximum Daily Load (TMDL) in the current permit are retained in the proposed permit. The TMDL for fecal coliform in the current permit is replaced with E. coli because the new WQS has adopted E. coli. The proposed permit applies the water quality criteria for E. coli, 126 cfu/100 ml of monthly average and 235 cfu/100 ml of daily maximum, at the discharge. The WQ-based pH limit range of 6.6 – 8.8 s.u. is retained in the permit. The total residual chlorine limit is retained in case the permittee uses any chemical containing chlorine for cleanse of the system or supplemental disinfector.

i. Monitoring Frequency

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity 40 CFR 122.48(b) and to assure compliance with permit limitations 40 CFR 122.44(i)(1). The monitoring frequencies are based on BPJ, taking into account the nature of the facility and its design flow and the previous permit. Monitoring frequencies in the current permit are retained and a frequency of 2/Month is established for E. coli. The testing of TRC is required only when a chlorine-contained chemical is applied to the system.

j. Whole Effluent Toxicity (WET) Testing

In a letter from Marcy Leavitt, NMED, to Claudia Hosch, EPA, December 16, 2005, NMED provided "Narrative Toxics Implementation Guidance – Whole Effluent Toxicity" (WET Guidance), an update to the 1995 Implementation Guidance. The discharge is to Cieneguilla Creek and the critical low flow (4Q3) of the stream in that segment is estimated to be 0.19 cubic feet per second (cfs) which equals to 0.123 mgd. The design flow of the facility is 0.50 mgd. Therefore, the critical dilution of the discharge to the receiving stream is 80%. A reasonable potential analysis was performed on the available WET test data and the calculation determined that reasonable potential exists based on one test with a sub-lethal NOEC of 42% (new Critical Dilution = 80%). This was based on a small data set (WET was implemented in 2004 for this minor discharge, 0.5 mgd) and no data from three quarters in 2006 during which there was no discharge. Based on additional information provided by the facility and discussions with Darrell Benjamin, the facility manager, it was determined that pathogenic interference may have been responsible for the failure. Therefore, EPA believes that reasonable potential does not currently exist and recommends basic WET monitoring with the frequency in accordance with the WET Guidance. The facility is required to conduct chronic WET test annually with Ceriodaphnia dubia and Pimephales promelas and at an 80% critical dilution.

k. Significant Changes from the Existing Permit

There are significant changes of permit conditions from the existing permit issued July 23, 2004, with an effective date of September 1, 2004, and an expiration date of July 31, 2007:

(i) Add effluent limitations and monitoring requirements for E. coli;
(ii) Delete effluent limitations and monitoring requirements for fecal coliform; and
(iii) Change WET testing from 1/quarter to 1/year.

11. 303(d) LIST

The receiving stream, Cieneguilla Creek, is not listed as impaired water in the State 2004-2006 303(d) list. The proposed permit has included loading limits for aluminum and TSS and concentration limit for E. coli based on TMDL Waste Load Allocations (WLAs) assigned to Angel Fire discharge. No other effluent limitations are required to address the stream impairment issue.

12. ANTIDEGRADATION

The NMAC, Section 20.6.4.8 "Antidegradation Policy and Implementation Plan" sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the proposed permit are developed from the State water quality standards and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use.

13. ANTIBACKSLIDING

The effluent limitation and monitoring requirement for fecal coliform are replaced with E. coli. The basis for such changes are the new State Water Quality Standards. Therefore, such changes are in compliance with the regulations and EPA's antibacksliding policy.

14. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the reissuance.

15. ENDANGERED SPECIES CONSIDERATIONS

Six species in Colfax County are listed as Endangered or Threatened, according to the most recent U.S. Fish & Wildlife Service, (USFWS), currently available at www.fws.gov webside. The lone aquatic species is the Arkansas River shiner. Four of the species are avian and include the Bald eagle, Mexican Spotted owl, Piping plover and the Southwestern Willow flycatcher. Lastly, the lone mammal is the Black Footed ferret. Based on the following discussion, EPA has determined that the reissuance of this permit will have *no effect* on these federally listed threatened or endangered species.

The lone aquatic species, the Arkansas River shiner, is extirpated in this county. The issuance will have no effect on this species.

Along with habitat destruction, organochlorines have been indicated as a cause of population decreases in the Bald eagle. EPA's belief is that issuance of the permit will have no effect on this species.

Research of available materiel finds that the primary cause for the population decreases leading to threatened or endangered status for the Southwestern Willow flycatcher and the Mexican Spotted owl, is destruction of habitat. Issuance of this permit is found to have no impact on the habitat of the listed species since no construction is authorized by this permitting action except for the actual outfall structure. Also, suitable habitat for the Southwestern Willow flycatcher, to include the cottonwood overstory and willow understory is lacking in the area of the discharge.

Research of the Piping plover finds that the migratory bird winters in the warmer Gulf Coast and Carribean area, then migrates to northern areas such as New Mexico for breeding. The species makes nests in sandy point bars of streams and alkali flats. Threats to the species in New Mexico are due to damming and channelization of rivers and disruption by other wildlife. Issuance of this permit will have no effect on the Piping plover or its habitat.

Research of the black-footed ferret finds that the species has diminished due to the eradication of prairie dogs, the primary source of the ferret's habitat and food. Issuance of this permit will have no effect on the prairie dog food source or habitat.

16. CERTIFICATION

The permit is in the process of certification by the State agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

17. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

18. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

a. Application(s)
EPA Application Form 2A signed February 21, 2007.

b. State of New Mexico References
New Mexico State Standards for Interstate and Intrastate Surface Water, 20.6.4 NMAC, as amended through December 29, 2006.

Narrative Toxics Implementation Guidance- Whole Effluent Toxicity, State of New Mexico, December 16, 2005.

Region 6 Implementation Guidance for State of New Mexico Standards for Interstate and Intrastate Stream, May 5, 1995.